

AMATEUR RADIO

MAY
1948

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA



The advertisement features a black and white illustration of a steam locomotive moving from left to right. On the left, a box of Philips Valves is shown, with the Philips logo and the word 'VALVES' visible. Next to the box is a circular Philips logo. Two vacuum tubes are positioned on the locomotive's smokestack. The words 'full steam ahead' are written in a cursive script above the tubes. A white rectangular box on the right contains the text 'TO BETTER RADIO with PHILIPS VALVES'. At the bottom, a line of text reads 'PHILIPS ELECTRICAL INDUSTRIES OF AUSTRALIA PTY. LTD. Sydney, Melbourne, Perth, Adelaide, Brisbane'.

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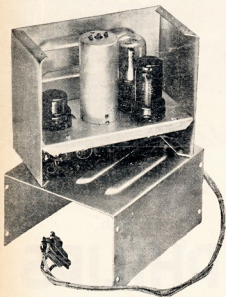
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AMATEUR RADIO

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EDITORIAL



In this month's Federal Notes you will find a brief resume of the activities at the Federal Convention where the few did so much for so many. Whether the many will approve of the work performed by the few remains to be seen.

One of the major tasks allotted to Federal Executive for the forthcoming year is that of preparing a "Uniform Divisional Constitution." This is going to be a gigantic task as it is necessary to take into consideration both the wide variations in Companies Act in each State, and the diversity of existing Divisional Constitutions. One thing stands out very clearly, before a uniform divisional constitution can be agreed upon each and every division will have to make generous concessions.

Unfortunately we are living in a world filled with suspicion and motivated by selfishness; hence we are all biased by our environment and find it difficult to believe that the other fellow is actuated by honest motives.

It is obvious that before true Federation can exist members will have to delegate sufficient discretionary powers to Divisional Councillors, Federal Councillors and Federal Executive to make any scheme workable.

The present basis under which executives of the Institute are fettered and hampered by the cumbersome process of securing

approval step by step from members generally is both unsound and unworkable. It is not suggested for one moment that you as a member give anyone a blank cheque; but rather that everything be viewed in its correct perspective. If you have sufficient faith in your own judgement in electing the right men, then surely you can trust those men to perform the task faithfully during their term of office.

The other stumbling block which must be removed to make way for Federation is "Interstate Jealousy." The continual fear by one State that another will encroach upon its precious preserves. This outlook reeks of medieval times when Barons were wicked old gentlemen who lived in castles surrounded by watery moats, and does not in any way fit in with the radio picture wherein is envisaged, upon a broad canvas, the complete elimination of boundaries, prejudices and racial differences, based upon the better understanding promoted by the penetration of the common interests of Hamdom into the far corners of the earth.

The moral of this story is — can we rise far enough above our present environment and past prejudices to make FEDERATION a concrete fact instead of an idealistic dream. The ball is in your corner!

G.G.

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SERIES PHASED AERIAL ARRAYS

By H. K. LOVE*, VK3KU

So much has been written on the subject of Directive Arrays, that one hesitates to step into this field unless it is to offer a summary of experience which may clear up some of the confusion which exists. An examination of the published data on Parasitic Arrays, for example, shows a great variety of claims for gain above a dipole. Some of these claims are fantastic, and some conservative.

The important feature from the Amateur's point of view is that all types of Parasitic Beams work in some fashion. It is feared that some of the information on this type of beam has its genesis in unbounded enthusiasm, brought about by the fact that the author has been fortunate; his location and all the other factors have been favourable, and his results excellent. We all fall into this trap at some time or another—it is the "Ham" in us!

It is no wonder, then, that when results are not as good as we expect, some of us are disappointed. The reason can, as a rule, be traced down to some unfavourable factors which were not present in the enthusiastic author's case.

There are a number of factors which govern the operation of Parasitic Arrays—some of them are as follows:—

- Location.
- Height above ground.
- Nature and proximity of surrounding objects.
- The ability to accurately tune the array.
- The method of feeding.

Some very interesting and accurate engineering data on the subject of Parasitic Arrays is found in the Radio Engineer's Handbook (Terman) beginning on page 809, para. 17.

In the main, this paragraph deals with a simple driven element, and a Director or Reflector. Examination of the figures on page 810 will reveal just how slight changes in tuning or spacing will affect the pattern.

After reading this data the Amateur will begin to look around his location and count the tin roofs and other obstructions in an endeavour to learn what chance he has of getting out in the right direction, if the antenna is pointing in that direction.

All this wordy preamble is to indicate that what the other fellow has done with a 2, 3 or 4 element beam of the parasitic variety, cannot always be repeated in another location. One may still persist and do a very nice job on such an array, but there is always the feeling that with a little more tuning and adjustment, better results might be obtained. One cannot help wondering if those non-driven elements are doing their stuff!

It is for the above reasons that the writer suggests an all-driven array for Amateur work—it cuts out a good part of the big doubt.

In the case of a long wire of several wave lengths, there is little concern by most users that the power may not be traversing all the half wave lengths included in its length—this is not one of the worries, as it well may be in the case of a multi-parasitic array.

THE MARCONI FRANKLIN SERIES PHASED ARRAY†

Such is the full name of the beam about to be described. If one took a huge loop of wire, say a wave length or so long, set it out in a circle and fed both ends from the transmitter tank, provided it was resonant and drew current, there would be little fear in the mind of the operator that the r.f. was not in all parts of the wire, because the whole loop is in series.

It is not, however, convenient to mount and erect such a contraption, but the series characteristic can be retained by another method.

†"Short Wave Wireless Communication" by Ladner & Stoner.

Keeping the series idea in mind as the first fundamental, let us add some other desirable features as under:—

- Compactness.
- Flatness of tuning on the Ham bands.
- No critical tuning.
- Substantial gain.
- No adjustment, and easy to feed.
- Correct phasing to achieve directivity.
- All elements in series, and therefore all excited.

These features—(a) to (g)—are the story of the Series Phased Beam as applied to Amateur practice.

The following quotation, extracted from Messrs. Ladner & Stoner's "Short Wave Wireless Communication" will start one thinking on this type of array:

"In its simplest form the series-phase consists of a wire folded into a number of loops connected by horizontal wire lengths as shown in Fig. 132, suspended either vertically or horizontally, the

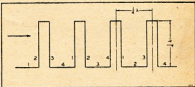
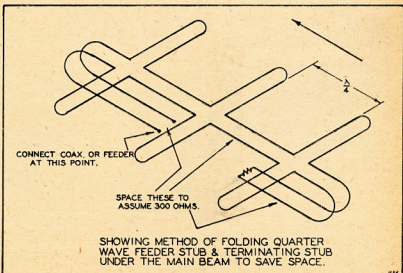


Figure 132

dimensions of the loops and the spacing being dependent upon the type of diagram required. In general, the most commonly adopted arrays are made with loops approximately one-quarter wave-



SHOWING METHOD OF FOLDING QUARTER WAVE FEEDER STUB & TERMINATING STUB UNDER THE MAIN BEAM TO SAVE SPACE.

*Virginia Street, Mt. Waverley, Victoria.

length long spaced a similar amount, the length of the array line being dependent upon the directivity desired. An array line will be fed from one end, usually through a short length of non-radiating feeder coupled to a normal concentric tube main feeder, the remote end of the array generally being terminated by a resistance equal to the characteristic resistance of the system, which approximates to 300 ohms.

"As will be seen later, the loops perform two separate functions: to act as radiators, and what is as important, to determine the time phase of current between loops.

"Consider an earthed vertical single wire aerial. When excited from the base, a stationary wave is formed, by a wave *W*, travelling up the wire, and a similar reflected wave *W*, travelling back. We could imagine wave *W*, travelling up the left hand edge of the wire, and the same travelling wave returning down the right hand edge of the wire, and because at all intervals of time the instantaneous values of the current waves *I*, and *I*, at the top are equal but opposite in direction, they form a node of current here.

"At other points down the wire the instantaneous amplitude of *I* and *I*, are not always equal, and if their values are traced out in time they will be found to form a stationary wave with current antinode at the base when the wire is one-quarter wave length long. However short or long this wire may be, a stationary wave will be formed by these two travelling waves with a node of current at the top end and current value at the bottom appropriate to the length of wire. Accompanying the current stationary wave is a voltage wave in quadrature time phase with it and with an antinode at the top end.

"If instead of providing a single wire we provide a loop of wire, Fig. 133, fed at the lower end, 'A' say, this loop being part of a circuit in which a travelling wave is flowing, the wave will now travel up one wire 'AB' and return by the second 'BC' from which it continues on in the circuit, but provided these wires are sufficiently close together to be regarded as coincident in space from a radiation point of view, the loop may



Figure 133

less) an antinode at the bottom end, but in quadrature time-phase with the effective current stationary wave there will be a voltage stationary wave, having an antinode at the top end and a node at the bottom end. The voltage does not reverse in sense at the top, and in consequence, no node is produced, whilst at the bottom of the loop the voltages are always equal but opposite in phase.

"The radiation resistance of the loop will be four times the radiation resistance of a single wire for the same base current measurement in each case. This is so because a meter placed at the base of one limb of the loop is measuring current in one limb only, and this is half the effective stationary wave current at the base, as the currents add to this point. This means virtually that the effective height, and in consequence the radiation efficiency of this portion of such a system is high. For this reason, an array built with loop radiators is equally suitable both for transmission and for reception purposes."

Messrs. Ladner & Stoner deal, in the main, with the "Series Phase" as a commercial curtain, and cover the maths, and theory considerations fully. It is the purpose of this article to summarize the application of this system to Amateur use. At VK3KU the beams for 2B, 50 and 144 Mc. are all series phase, and on 2B and 50 Mc. have done a wonderful job. It should be remembered that no tuning or adjustment has been done on these beams—they simply work!

It will be seen that Fig. 132, ex Ladner & Stoner, forms the basis of construction of Fig. 1—the Amateur application for 2B Mc.

The beam construction for Amateur use is two beams mounted horizontally—see Fig. 1.

be regarded exactly as a single wire carrying a stationary wave with current node at 'B.' These two travelling waves not only form a stationary wave of current with node at top end and (if the loop is $\frac{1}{2}$ or less) an antinode at the bottom end, but in quadrature time-phase with the effective current stationary wave there will be a voltage stationary wave, having an antinode at the top end and a node at the bottom end. The voltage does not reverse in sense at the top, and in consequence, no node is produced, whilst at the bottom of the loop the voltages are always equal but opposite in phase.

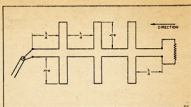


Figure 1

As the loops on each side of the beam represent a $\frac{1}{2}$ wave out and $\frac{1}{2}$ wave back, each loop is $\frac{1}{2}$ wave length, and this, added to the corresponding loop on the opposite side, makes each element a folded full wave. Since all loops are in series, each is excited.

The loops, therefore, perform two separate functions: to act as radiators, and what is quite as important, to determine the time phase of current between loops.

A further extract from Ladner & Stoner will make this clear:—

"Consider Fig. 134 (a), which shows two radiators 1 and 2 spaced one quarter wave length apart and connected by a feeder line. If this system is fed from a point 'A,' half-way between the aeriels, zero time phase is supplied to both aeriels, but if we move the feed point to 'B,' this automatically creates a time phase difference between 1 and

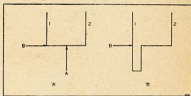
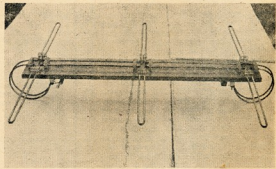
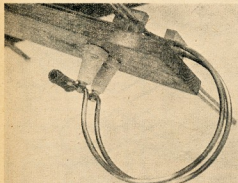


Figure 134

2, equal to the space phase between them, assuming the radiated wave travels to the right at the same velocity as the wave along the feeder. In this case maximum directivity is away from the feed point 'B.'

"Still keeping the feed input at 'B,' we can reverse the diagram by looping the feeder to give aerial 2 a lagging



Above: Complete Series Phased Three Element Beam for 144 Mc. showing Stubs turned under.

At left: Terminating Stub on 144 Mc. Series Phased Beam.

current of 90°. To do this the feeder length can be increased as shown in Fig. 134 (b), such that it equals ($360^\circ - 90^\circ$) or $\frac{3}{4}\lambda$. If we design the loop to have $\frac{1}{4}\lambda$ sides as shown, this loop, together with the straight portion of $\frac{1}{4}\lambda$, makes up the $\frac{3}{4}\lambda$, and as we have seen, if the sides of the loop are coincident in space, the loop itself will act as a radiator; in consequence, we can use it not only as a phasing feeder to aerial No. 2, but to replace aerial 1. In a similar way the whole line of radiators can be replaced by loops, whose lengths are made correct to produce the required phasing between the radiating elements. This is the usual series-phase array design which therefore has maximum directivity from its feed end, and it is clear that with this particular spacing we could not reduce the dimensions of the loops sufficiently to reverse the diagram, i.e. by producing a time phase equal to the space phase as the loops would then have zero dimensions.

"But we can obtain this reversal by increasing the loop still more, namely to $\frac{1}{2}\lambda$, as in this case the total feed length is then $1\frac{1}{4}\lambda$, and this gives the required time phase."

It is not intended, here, to go further into the theory of this type of array, as Messrs. Ladner & Stoner have treated this at great length. It is therefore intended to give some pointers on the construction of a Series Phased Array for the practical Amateur bands.

The beam is practicable on the 14, 21, 28, 50 and 144 Mc. bands. The dimensions are easy to compute by any formula for $\frac{1}{4}$ wavelength. It has been found that the beam is very suitable to work over quite wide areas of the bands, with little loss of efficiency, and on this account the intending user is advised to cut the $\frac{1}{4}$ wave sections for a frequency at the centre of his operating frequencies. The $\frac{1}{4}$ wave stubs for feeding and termination can be folded back under the framework of the beam, and accordingly do not add to the length of the structure. The $\frac{1}{4}$ wave feeder is made up of open line, with spacing and conductor diameter to make a 300 ohm line. This can be done with tubing or with wire, provided the spacing is suitably adjusted to 300 ohms.

The loops or elements are best made of $\frac{1}{8}$ " tubing, or can be wires folded back round insulators if desired.

It will be seen that for 14 Mc. a two element beam is not by any means too big. Such a two element affair will have

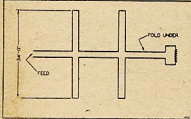


Figure 2

four driven $\frac{1}{4}$ waves and will occupy approx. 34" x 17" 6" (Fig. 2). A three element for 28 Mc. (6 half waves) will take a space of about 17" x 16".

The method of mounting the elements on a wooden frame, whether it be a tubing structure or wire, is left to the intending user.

The spacing between centres of the folded back tubes or wire should be quite close; in the case of tube, a space not in excess of $\frac{1}{4}$ " between the adjacent walls will be about right. If wire is used, a space of approx. $\frac{1}{4}$ " between centres of the wire will do well—but care should be exercised when the construction is designed that the wires are held apart and do not touch in a high wind. Liberal use of insulators or small spreaders should serve well to achieve this.

The Termination.—The beam may be left bi-directional if desired, or made uni-directional by a terminating resistor of 300 ohms of a non-inductive type.

The Beam In Use.—The feeder can be almost any type of line—open or co-ax.—and the feeder stub, which is 300 ohms $\frac{1}{4}$ wave, will take care of the matching to the array in much the same manner as Q bars. Should 300 ohm line or cable be available, this may be used right down to the transmitter tank.

Results obtained with this beam indicate that it does a first-class job. There are numbers of beams—the description of which, together with the theory and data, would tempt some of us to endeavour to use them, but unless one has the facilities to ensure perfection of the theory, it may be better to leave them alone.

When all is said and done, most of us are after RS reports, and we also like something round the S9. With the limited power the Australians use, the S section of our reports must come from getting as much of the r.f. from the tank into the flat top as possible.

The improvement of our signal strength from, say, S6 by power increase

can be expressed in the following terms: To raise an S6 signal to S6.5 requires that we multiply the power by two. To increase our signal by one S unit, i.e., 6 db. to S7, the power would need to be multiplied by four. One can go on doing sums like this to see how many times the power must be increased to gain the additional signal points, but it is the power that reaches the flat top which does the job.

If equipment is arranged with 100 watts input to give 60 watts output in the tank, all well and good, but if only 15 of the watts reach the radiator, we are not getting very far. What we all desire is the use of as much of that 60 watts as possible in the radiator—pushed in the desired direction—that of the receiving station.

TIPS FOR PRACTICAL CONSTRUCTION

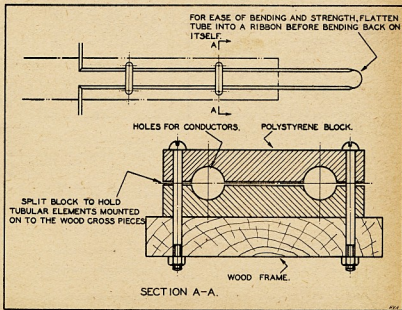
It is strongly recommended that the beam be fabricated of $\frac{1}{8}$ " copper tubing in the case of 28 Mc. beam, or $\frac{1}{4}$ " copper tubing in the case of 50 Mc. beam.

Reference should be made to "Amateur Radio," July, 1947, page 5, for the impedance versus spacing diameter curve for conductors to ensure that the quarter waves between the elements are arranged to assume an impedance of 300 ohms.

The folding back of each element which is a half wave folded back on itself, should be accomplished by hammering it flat at the centre point which makes an easy method of bending and strengthens the whole job, as instead of being a bent tube it is a ribbon of flat metal.

The builder is advised to braze the tubing into one solid grid to ensure that the beam is in complete electrical contact throughout its length.

The method of mounting is to make a (Continued on page 8)



The BC696 and BC457 Transmitters

By F. M. NOLAN*, VK4FN

The BC696 and BC457 Transmitters can be very simply converted to make excellent v.f.o.s. for the Amateur bands. Before commencing the description of the alterations necessary to convert for Ham use by VK4FN, the following description of the units is reprinted from "CQ," May 1946, to acquaint the reader with their operation.

An increasing amount of surplus Army equipment is appearing on the civilian market. Among various items of interest to the Radio Amateur is the SCR274N, an aircraft unit that is very easily adapted to Amateur use as a stable, variable-frequency oscillator (v.f.o.), either for a.m. or f.m. operation. The SCR274N is the overall designation given the principal components of a multi-channel aircraft radio receiving and transmitting set-up used on thousands of planes and now "declassified." So that the reader may know what to look for, the army numbers of the equipment are as follows:—

The receiving end consists of three separate units—the BC453 (190–550 Kc.), the BC454 (3 to 6 Mc.) and the BC455 (6 to 9.1 Mc.). These receivers operate from the aeroplane 24–28 volt storage battery and each contains a separate dynamotor for plate power. It is an easy matter to substitute 6 volt tubes for the 12 volt series type originally in the receiver, and re-wire the filament string for parallel 6.3 volt operation from a standard filament transformer. (Alternatively, a 24 volt transformer may be used to energise the heater circuits with the receiver left as is.) Any light 250 volt receiver power supply will provide plate power for the sets, or a vibrator pack may be used if mobile operation is contemplated. These receivers are very sensitive, incorporating an r.f. stage, b.f.o. for c.w. reception, and, all in all, make excellent receivers up to approximately 10 Mc.

Four separate transmitters are included in the sending unit. The BC696 covers 3 to 4 Mc., the BC457 from 4 to 5.3 Mc., the BC458 5.3 to 7 Mc., while the BC459 tunes from 7 to 9.1 Mc. Each transmitter consists of a master oscillator tube (1626 or 12J5) exciting a pair of beam tetrodes in the power amplifier stage (1625s or twelve volt 807s). The tubes in the amplifier are connected in parallel. The master oscillator and r.f. power amplifier tuning capacitors are ganged, and an excellent worm drive, with plenty of reduction, is incorporated in the dial system. Included in each transmitter is a piezo-electric crystal and an electronic resonance indicator for calibration.

The power output may be varied from a few watts to approximately 55 watts according to the power supply on hand. Thus, one of these little jobs may be used as a fixed variable-frequency

transmitter or as a driver for a higher power amplifier.

The components are of exceptionally high quality and the assembly rigidly constructed. With a stabilised 200 volt supply to power the master oscillator, the drift is very small. This equipment was designed to hold the frequency quite constant in aircraft under vibration and extreme temperature changes; so it can be understood that the frequency variation will be practically nil with the set mounted on the operating table, subject to little vibration and relatively constant temperature.

A power supply, preferably a regulated 220 volt unit, is used to power the master oscillator—while anything from 200 to 550 volts, unregulated, is suitable for the amplifier, depending on the desired power output.

The dial is very closely calibrated and a crystal resonator is used to check the calibration. This is very simply observed by tuning for maximum indication on the electronic eye tube and then noting if the dial reads exactly the crystal frequency. The transmitter is then calibrated over the rest of the dial. This crystal does not stabilise the frequency in any way—it is merely a built-in standard to check the master oscillator dial setting. A crystal of another frequency could be substituted—for instance one spotting a particular net or net operation frequency. This would enable the operator to place himself exactly on a particular frequency in the band.

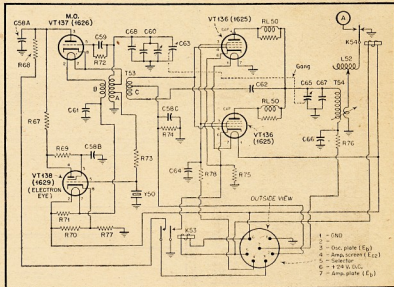


Fig. 1. Original schematic of the BC458 (5.3 to 7 Mc. with a bit of leeway).

The following parts are identified:—

C58A, C58B, C58C—0.05 uF.
C59—0.00018 uF.
C60—master oscillator padding
C61—0.006 uF.
C62—fixed neutralising
C63—master oscillator tuning
C64—0.002 uF.
C65—power amplifier tuning
C66—0.01 uF.
C67—power amplifier padding
C68—3.0 pF.
C69—50 pF.
K53—transmitter selector relay
K54—transmitter output relay

L52—antenna loading coil
R67, R72, R75—51,000 ohms
R68, R76—20 ohms
R69—1 megohm
R70—1,000 ohms
R71—126 ohms
R73, R74—15,000 ohms
R77—390 ohms
R78—51 ohms
RL50—parasitic suppressors
T53—oscillator coils
T54—amplifier coils
Y50—crystal unit
7-prong female plug, outside view.

* "Fran-Reen," Dawn Street, Stafford Heights, Queensland.

RE-WIRING TO USE AS V.F.O.

A number of members have procured either the BC696 or BC457 Transmitters from Disposals, and desire to use them for v.f.o. operation and it is proposed here to outline the steps taken by the writer to put them in operation as v.f.o. units.

Being fortunate enough to have access to a handbook on the SCR274N equipment, of which these units form part, a study was made of the circuit details from which was learnt that the oscillator coil has three windings (see Fig. 1), one being the usual electron coupled oscillator winding which is tapped and connected through a resistance to the grid of a magic eye tube which is used as a crystal oscillator for calibration purposes. Another winding couples the output of the oscillator to the p.a. tubes which are connected in parallel, this winding being centre-tapped, one side going to the grids of the p.a. tubes and the other to the neutralising condenser, while the centre-tap returns through a bias resistance to earth. The third winding is placed in series with the heater of the oscillator tube.

To make the alterations necessary for use, turn the chassis upside down with the oscillator tube and magic eye to the rear. On the left-hand 1625 tube socket pin No. 1 has three white wires connected to it. One of these can be seen going to the front of the unit, one towards the rear and the third towards the right-hand side. Disconnect the wire going to the front of the unit and also the one to the right and connect

both to socket connection 2 which is spare.

From pin 7 of this same socket disconnect the white wire and reconnect to pin 1, from which the two other white wires were removed. Next bridge pins 2 and 7 together and run a wire across to pin 7 of the right-hand 1625, this change having placed the heaters in parallel and completed the circuit for the control relays which control the h.t. and stand-by circuit as well as the antenna switching which is the output terminal for the new v.f.o.

To place the oscillator and magic eye heaters in parallel disconnect and remove the resistor mounted on the rear wall of the chassis at present connected to pins 2 and 7 of the magic eye. Disconnect also the 1 watt resistor connected between pins 2 and 8 of this tube, and remove the white wire from pin 7 of the socket and re-connect to bottom left-hand pin of the power socket (pin No. 6). Now bridge pins 1 and 7 of the magic eye socket and earth to chassis. This completes the work under the chassis leaving a few alterations "upstairs."

Remove the antenna coil and from the connection on the tank coil where the T.C.C. wire from the antenna coil was connected and run a new wire to the antenna terminal via the relay contacts. The needs of individuals may be varied at this point. At 4FN the antenna terminal was removed and a co-ax connector substituted, also the relay contacts were not used.

All that remains is to connect a power supply to the socket, with 12 volts d.c.

via switch to pin 5 of power plug to operate relays and the unit is ready for operation, the rest of the supply being 12 volts a.c. for the heaters, 250 volts d.c. to the plates of the 1625s, 200 volts to the screens and 105 volts to the oscillator, stabilised by a VR105/30.

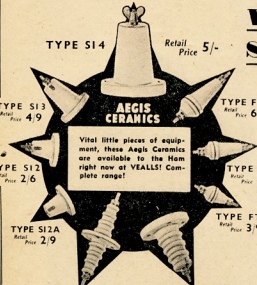
Tune the main dial to the crystal frequency and switch ON, giving the unit about 30 minutes to settle down. Note whether the magic eye shadow is wide (i.e. 90°). If not, the oscillator is not tuned to the crystal; to adjust, slide back the small cover on top of the unit giving access to the oscillator adjusting screw in the coil box. Carefully adjust until the eye angle is 90°.

The units in use here have proved to be very stable and, as could be expected, have oceans of output. The output in fact is somewhat embarrassing and it is proposed to remove one of the 1625 tubes and re-adjust for single tube operation. This calls for a change in the grid bias resistance and an adjustment to the neutralising condenser which will be found on the right-hand side wall of the unit. This job however is not a difficult one. (Another alternative is to cut the h.t. supply to the tube and leave it in, which would not upset neutralising and only call for a change in bias.—Ed.)

CONVERTING TO TAKE 807s

If a unit has been purchased which has no valves, it may be more convenient to use 6 volt filament types. The 1625 sockets can be easily altered to take 807s as follows:—

Remove the "U" shaped springs from pins 1, 2, 4, 6 and 7 on each socket, and then bend contacts apart slightly.



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TYPE BH2
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TYPE FT4
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TYPE FT2
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TYPE FT1
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A small rat-tail file can now be inserted in the socket holes and the insulation filed. Holes 1 and 7 are filed half the diameter of an 807 socket pin in the direction of the centre of the socket. Hole 4 is elongated equal to its own diameter, also in the direction of the centre of the socket. Holes 2 and 6 are filed equal to their own diameter, in the direction of hole 4.

After checking to see the 807 fits correctly, replace the socket springs.

In the original 7 pin sockets, pins 2 and 5 were used as tie points, having no connection to the valves. It is therefore necessary to remove the plate resistor from its tie point on pin 2 of the right-hand socket, and connect direct to its by-pass condenser. On the left-hand socket the relay leads connected to pin 2 (in article), are shifted to pin No. 7 and the strap between pin 7 and 2 removed.

The screen leads which were on pin 3 of each socket are re-wired on pins 2.

BAND SPREADING

The degree of spread on the Amateur bands can be increased by placing a fixed capacity in series with the oscillator and p.a. tank condensers. These condensers must have the same value to retain tracking. Values of 100 pF. give a good spread and should be good quality mica condensers, the oscillator band being a zero coefficient ceramic preferably. The 7-7.2 Mc. band occupies about 90 degrees of dial space on the 5.3 to 7 Mc. model with the series capacity specified.

Series Phased Aerial Arrays

(Continued from Page 5)

main boom according to the circumstances and the room available and provide cross numbers of light, strong timber and attach grid which is supported by a number of polystyrene split blocks. This holds the whole grid of tubing rigid on to the wooden frame and the method of rotation is one of normal practice and must be left to the intending builder's imagination, his circumstances and his pocket book.

Reference is made to the method of folding the quarter wave feeder and terminating stubs back under the beam to save room. This in no way affects the behaviour of the beam. It should be remembered that the direction of propagation is back over the feeding end of the beam when it is terminated with a 300 ohm resistor.

A TWIN RIBBON SERIES PHASED BEAM

Reference to the drawing of the Series Phased Beam will suggest that there are more ways of filling a pig other than choking him with butter. There is available these days, twin ribbon feeder cable in various impedances. It is suggested that the feed from the transmitter tank could well be in 300 ohm ribbon and the elements of 80 ohm—the feed between each section to be also of 300 ohms.

The whole could be laid out on insulators on a wooden frame and would be light and effective. The feeding stub

need not be used as the 300 ohm ribbon will eliminate the necessity for its use. A quarter wave of the same 300 ohm cable can then be used as the terminating stub and this may be very conveniently folded back under the beam. If a bi-directional beam is desired, this too can be dispensed with altogether.

FEEDING AND BALANCE OF BEAMS

One of the most important subjects which Amateur transmitters should give attention to is the matter of feeding. The old idea of stuffing a few turns into the tank should be avoided. This practice almost invariably results in capacity coupling and if the case is bad may result in the beam and its feeders acting as a Marconi radiator against ground or the electric wiring system.

An aerial tuner should be used in all cases. This will ensure good results, by elimination of standing waves, b.c.i., etc., and above all reduce the losses in the system, thus ensuring maximum energy in the radiator.

The reader is strongly urged to read "Parallel Standing Waves," by W3BLZ, in "QST" of Jan. 1948, page 45. Application of the suggestions contained in this useful article will help towards the objective.

ALTERATION TO V.H.F. BAND

As a result of negotiations between Federal Executive and the P.M.G.'s Department the band 144 to 148 Mc. becomes available for exclusive Amateur use as from the 1st May, 1948. This band replaces the 166 to 170 Mc. band.

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"HOW TO LOSE FRIENDS"

By E. A. Charles, VK5YQ

Before proceeding I would like to apologise to all those to whom I caused unnecessary QRM in 1947. I refer in particular to those nightly 14 Mc. phone cross-talks, long-winded, inane rags-chews. It shall not occur again.

Good operators are the result of successful experience. It takes some a lot longer than others to catch on. Instead of complaining, let's try and help the other guy learn a little more rapidly.

THE SECRET OF SUCCESSFUL DX IS THE ABILITY TO VISUALIZE THE SITUATION AT THE OTHER END AT THE TIME!

To illustrate I will quote two examples. The first, Friday evening, 2nd January—VK-ADX v.f.o.s. onto W3JCR's frequency and answers his CQ, with about 50 calls before giving his own. By some miracle he is partly heard; by a greater miracle, answered. W3JCR explains his name is Bill and goes over. Back comes ADX (who obviously didn't get this), "you're Readability 5 and Strength 8 to 9 old man!" Neither are heard again.

Here is what ADX obviously does not know. W's phone band is 14200 to 14300 Kc.; there are quite a lot of American stations licenced. He was lost in QRM before he started. Any station that calls very long without giving his own call is automatically passed on.

When the Ws aren't coming through it is nice to move into their phone band to be clear of QRM. However, how many of you give it real thought—if you listened with a little more interest you would most likely hear some VK4 or VK6s working them. So you don't QSY there to give them QRM unnecessarily.

If you don't know how the bands are used, ask someone—that's how we all learn.

Second example, Saturday afternoon, 3rd January—VK2OQ contacts T2IOA from about 10 Kc. above his frequency. VK-JP was there, over-modulating and v.f.o.-ing onto each South American as he appeared. I did hear T2IOA go back to JP as —JC-, but at that time, T2IOA had called CQ at S9 plus. Before VK2OQ has finished, JP is on his frequency frantically calling again. They have another over—at least T2IOA does—then JP calls again despite the fact that Otto had said he was looking for K3SB. Noting the absence of the VK3, I picked a frequency a little clear—lower than the above splatter, and contacted T2IOA. But did I hear his final? No! JP was on him again calling! I pulled the switches in disgust! But I'll bet he didn't get that QSO.

The correct thing to do—picture yourself at the other end—would you answer a station that rudely interrupts your conversation? You'll tune away to someone in the clear. Simple, isn't it?

Unfortunately some people let their enthusiasm over-ride their better judgment. What if you do make the DX

Century Club in record time, you'll lose your good name in the process. DX will always be with us.

Most people call far too long. Admittedly some stations have HRO receivers with 400 degrees of bandspread, but a chappie usually first tunes the end of the band on which he himself is operating. Put yourself at the other end. OK—if you are on the opposite end of the band, wait until you think he has reached there, and call briefly. You have saved wasted calling should he find someone on his end of the band. Personally I always specify at the end of a CQ just from which end of the band I shall commence to tune. And when I answer (invariably in the case of VK contacts), I call no more than six times, sign and listen. If he doesn't come back, I wait until I think he has tuned to the other end of the band, then call briefly again.

The QSO itself. Unless you have something unusual in the way of antenna, receiver, or circuit hook-up, the other chap doesn't want to know—he's far more interested in the way his own rig is performing. However, he does like to see how the antenna and power results compare. If he is new, you may be able to help him overcome a spot of bother which concerns him much more than the DX you are itching to boast about. And please don't talk for the sake of talking to the "great unseen audience." There are lots of listeners who aren't "wireless cranks." Remember, your operating style is a fair indication of your character!

Then there's the matter of giving information. It pays to be sure of what you say—we can all make mistakes at times. The other chap will undoubtedly look it up and/or try it out—and undoubtedly change his opinion of you. Why not quote a reference—"I saw it in so and so." After all there are few of us with laboratory facilities, and far less who know something that isn't to be found in a book somewhere.

This "Hi-Hi" business on phone. To those who must punctuate each sentence with this method, why not break the monotony by using a few "Hee-Hee," "Ho-Ho" and "Haw-Haw's" if you can't laugh naturally. Granted a normal guffaw could be lost in QRM when working an XU or KQ.

"NEVERMORE QUOTH THE RAVEN"

By "Damocles"

Great game this Ham racket—been in it a long time haven't you—all of ten years or so—know all there is to know—and don't hesitate to air the vast fund of knowledge. Big authority and all that. You are Mr. Ultra-Modern Era phone-man, yes, you can punch a key too, but you only do that on occasions; knowing that if what you sent in "the clear" reached authority, there might be storm clouds on the horizon.

No, you aren't in the radio industry, but you gave that other VK an ear-bashing about what he should do. He couldn't be expected to know over-much

—he is only a lab. technician with one of the largest radio engineering concerns. You couldn't be expected to know either that he was most anxious to pass your gab, in one oreille and out the other, but you know more than him; you just read it up in the Handbook in the long-suffering boss' time.

Yes, a plausible mike technique sure impresses that new Ham, but depend upon it that he will find you out, perhaps sooner than later. Your station is a beacon light in the wilderness of dead-air on the band; your "audience" awaits your advent with bated breath. And then, l'entrae magnifique! Wise-cracking, "Smart Ale Comebacks" and sepulchral "Heh, Heh, Heh's" of the kind that infect your imitators so profoundly. This is the stock-in-trade, and this is the Era of Progress; of speech and still more speech—ad lib—ad infinitum—and to the devil with the Morse key.

Fancy any poor mutt wanting to really use c.w. and to waste time thusly. Besides, how could the girl friends be impressed if they couldn't hear those dulcet honeyed tones. And when they visit your shack, which is so often, what more fitting than they be duly impressed with "Raaaagers" and "Brrrrreaks"—with a few Wilco's thrown in for good measure. Thus is your superb wizardry demonstrated.

Atmosphere is provided by gurgling liquid sounds, clinking glasses and thinly veiled innuendoes, so full of zest. The audience there and "on the air" are rocked to the foundations. It is fitting to inform the world at large that you suffer from "hangovers" as a result of "sessions." It is the very pinnacle of good taste that exudes from your microphone, so you may dumbly imagine.

It is impressive to yap in staccato phrases, inferential tones and ill-concealed riddles—transparent in fact to anybody with the smallest IQ. There are lots of fellow-hams that you don't like on the air—but you don't tell them so directly—they mightn't be so complacent about it. The technique is indirect reference with an under-current of spreading ill-will and far and wide. But the saying that "he who throws mud must expect some to stick to himself" is just as true in this Amateur Radio game as in other walks of life. And sometimes prodded worms turn out to be angry lions.

Far better is it to accept this erstwhile pleasant hobby of Amateur Radio as a hobby—for that after all, is just what it is—nothing more or less. When individuals make it a medium for antagonism between fellows, then it becomes something else—and even the proverbial Raven would be averse to it.

And of which is to draw attention to the unpleasant fact that there are instances of phone operation on our bands that would be better eliminated—for the good of the hobby. These are casual observations, they mention no specific individual, the only offence likely to be taken is by those with guilty conscience. There are phone merchants of the ilk portrayed among us but they are in the minority. But a cancer starts with a minor ailment!

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SPECIAL ATTENTION GIVEN TO COUNTRY MAIL ORDERS.

KINGSLEY NARROW BAND F.M. ADAPTOR

This unit consists essentially of a limiter and a discriminator, the purpose of which is to permit reception of frequency modulated transmissions.

Any Communications type receiver with a 455 Kc. i.f. channel as the final intermediate frequency may be adapted for f.m. in this way. "The New Look" type of final low frequency i.f. channel (to steal a term from "QST") would of course be the wrong i.f. frequency, but how could one receive f.m. phone with an i.f. pass band with this form anyhow?

The adaptor, which is illustrated in the Kingsley advertisement in this Magazine, uses a 6J5 as a cathode follower, connected directly to the secondary of the final i.f. transformer and due to the small loading effect of the well-known cathode follower system, the alignment of the i.f. transformer is readily restored by a very minor adjustment to the secondary trimmer or tuning core. In order to take the best advantage of the cathode follower, the adaptor is designed to plug directly into a six pin socket which is to be mounted on the rear of the receiver chassis, as close to the output of the i.f. channel as possible and as the other connections to the receiver circuit are heater, h.t. supply and audio frequency input, these lead lengths are relatively unimportant.

From the cathode follower 6J5 via resistance capacity coupling we go to the 6SJ7 limiter. This stage is the conventional grid leak, low plate and screen voltage connection, and in the limiter plate circuit is the special balanced discriminator transformer which in turn looks into a 6H6, using the Foster and Seely discriminator circuit. This discriminator transformer has a litz wire wound primary fitted with an iron dust pot and tuned with an iron dust core to 455 Kc. The secondary is a balanced winding in two sections and is padded with a fixed silvered mica condenser and tuned with a 3 to 30 pF. trimmer.

The discriminator output is taken via a coupling and filter system to the audio frequency input to the receiver and this is an efficient and convenient place for the switching to be made from a.m. to f.m.

In fitting this adaptor unit, the input to the a.f. gain control is opened and both the output from the original a.m. detector and the input to the a.f. channel are run in shielded wire via the socket at the rear of the chassis into the adaptor to pick up the output from the f.m. detector, then along to a switch, to be made in a convenient place on the front panel of the receiver. Thus once the unit is installed and the two trimmers peaked to the i.f. frequency, the simple operation of a single pole double throw toggle switch, changes the receiver immediately from a.m. to f.m. reception.

BRITISH RADIO COMPONENTS MANUFACTURERS' EXHIBITION

Federal Executive received an invitation to attend this Exhibition, and as readers will realise it was impossible for a member of F.E. to accept this invitation, Federal Executive requested Mr. Ken McTaggart (VK3NW/GSCUA), who is at present in England, to represent the Wireless Institute of Australia.

Ken duly attended the Exhibition and the following is an extract from his letter, and we have no doubt that readers will find it interesting.

"This is just to let you know that in due course I attended the Radio Components - Manufacturers' Exhibition at the Grosvenor House Hotel and found it of very great interest. Under separate cover and by ordinary mail, I am sending you one of the small "guides" to the exhibits which will give you some idea of the number of exhibitors and the variety of components on show, and also a couple of leaflets which describe some new departures in the design of speakers which I thought of special interest.

"It would be impossible for me to describe even a fraction of the good things I saw. This country appears to make every imaginable component nowadays, and the quality seems of a high order. Unfortunately in the shops the prices are rather too high and many things are in short supply, but that does not alter the fact that the manufacturers here are wide awake and out to produce the goods.

"I might mention in particular the very fine ceramic mouldings that are made for switches, valve sockets, condenser insulating, standoffs, and so on; the variety of plastic insulated cables including the wide range of 'twin lead' of various impedances, and co-axial cable from approximately $\frac{1}{4}$ " diam. up to over an inch; a wonderful assortment of relays of all descriptions; speakers from 2" to 20" and larger for public address work—including the new speakers described in the pamphlet I have sent which are from 2" to 8" diam. and only $\frac{1}{4}$ " to $\frac{3}{4}$ " deep, very useful for portables, mantle models, etc., and anywhere where space is at a premium.

"This country is also producing splendid meters of all kinds, also a wide range of microphones, while fixed condensers of various sizes and tolerances (down to $\pm 0.5\%$) and finished in 'lacquar', 'manufacturers' semi-tropical', and 'fully tropicalised' finishes make one's mouth water.

"I could go on like this for many pages but it would not tell you a great deal. To summarise, I would say that things are booming here and England is producing radio gear equal to any in the world and better than most. Thank you once again for sending me the invitation.

"Yes, I see Elgar Treharne periodically and have passed on your 73. He maintains regular contact with his father 2BM and seldom misses a morning. I

have not been so fortunate, but have contacted a number of the boys including 3YP, 3BZ, 3CZ, 3XU. Also some VK2s, 4s, 5s, 7s, and one VK6. I have been on 58.5 Mc. quite a lot and find conditions there very good with much more temperature inversion than we get in VK3, enabling work from 50 to 200 miles to be done quite regularly. 50 Mc. has now faded out again, and unfortunately I was not able to get on during the excitement. However I may be able to do something in the summer before I leave here.

"I get the Mag regularly—although belated—and am very glad to see that the 50 Mc. fellows are keeping up the good work with field days, Spor. E and so on. One reason for wanting to return is to take part in those most enjoyable outings to the hills!"

FRENCH EXPEDITION TO THE ANTARCTIC

It will be recalled that Monsieur Yves Valette, who is mentioned, was a guest at a recent general meeting of the Victorian Division and spoke of the proposed French expedition to the Antarctic during a short address to members.

Monsieur Valette was accompanied by Monsieur G. B. Perronne, Commercial Secretary to the French Consulate in Melbourne, who approached the Victorian Division of the W.I.A. in making the necessary arrangements concerning the possibility of the French expedition maintaining constant radio contact with Australia.

The following article appeared in the Melbourne "Age" on Saturday, 3rd April.

"France will send a well-equipped scientific expedition to the Antarctic at the end of this year. It will be the first French party to visit the Antarctic since 1909.

"M. Yves Valette, a French engineer, received a letter from the French Government informing him that he was to lead an expedition southward when he stepped ashore at Williamstown on Friday, 2nd April, from H.M.A.S. LST3501, which returned from the Antarctic. He will be one of the leaders of the expedition.

"M. Valette has had wide experience in the north polar regions, and 'limbered up' with a 300-mile trek on Spitzbergen before he flew out to Australia, to accompany the Australian party to the south. He is a champion skier.

"He went to the Antarctic in H.M.A.S. LST3501 to study conditions and make an advance survey for the French expedition.

"M. Valette said the expedition would go southward in minesweepers used during the war by the Free French. He said the party would include meteorologists, geologists—who will look into the rumor that uranium ore is available in the Antarctic—and cosmic ray experts.

"All the details are being worked out in Paris," he added. "It will be a most important expedition. We must establish our claim down there." The French party will sail from Australia."

Compiled by VK3QO, to whom all contributions can be sent

Max 3BQ took a little holiday on the 20th and 21st of March; while he was away someone turned in his 50 Mc. receiver and heard what they took to be ZLJBT, but did not make a note of it! About three weeks ago 3BD had a contact with 4ZU, who faded out on the third over. Next was 4Z/448, 3KO heard 2ADT and 2LY; on same evening 5QR worked 2YR, 2LY and 2WJ, 89 both days at 0.20 n.m.

At this meeting, a discussion was opened regarding vertical versus horizontal polarisation for the 144 Mc. band. After considerable discussion, it was decided to recommend that HORIZONTAL polarisation be regarded as "standard." At the same time, it is realised that vertical

Main activity in VK-2 centres in preparation of gear for 144 Mc. 522s are well in the fore-front as transmitters and a good few of the receivers also, 41BR, 4RY and 4XG all erecting six element beams for 144 Mc. "60" section as described in the Handbook. The v.h.f. gang are looking forward to the Field Day on the 1st and 2nd of May to mark the opening of the band, when 4CU and 4SN intend operating from Mt. Kunock, Toowoomba, 4KP from Springbrook and 4XG and 4ZU from Maleny. 4XG will use a six element array on 144 Mc., 4ZU a

In view of the shift to the 144 Mc. spectrum, it is considered by many that something definite concerning the type of aerial polarisation for this frequency has been established. It is possible to avoid cross polarisation, or to put it plainly, for everybody to start operations on the new band with the same kind of polarisation so as to avoid confusion. The VK3 group is in favour of horizontal VK3, is quite unanimous, as to horizontal polarisation, and judging by the change-over from the VK3 group to the VK4 group, it is not surprising. It seems to be the logical step to use horizontal as it provides greater discrimination against auto ignition, as well as from harmonics from the lower frequencies. Still, the VK3 group has no experiments, and that is what we are here for, so we hope for co-operation from the Interstate groups in deciding what standard is to be used.

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Federal President—W. R. Gronow, VK3WG; Federal Secretary, W. T. S. Mitchell, VK3UM, Box 2611W, G.P.O., Melbourne.

NEW SOUTH WALES

Secretary—Wal Nye (VK2XU), Box 1734, G.P.O., Sydney.

Meeting Night—Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney.

Divisional Sub-Editor—R. Deal, 209 Oberon Street, Coogee.

Zone Correspondents—North Coast and Tablelands: P. A. Alexander, VK2BA, Hill St., Port Macquarie; Newcastle: E. J. Baker, VK2FP, 13 Skelton St., Hamilton, Newcastle; Coalfields and Lakes: H. Hawkins, VK2TL, 27 Comfort Ave., Cessnock; Western: G. Russell, VK2V, 1000 Main Rd., Nyngan; South Coast and Tablelands: R. H. Rayner, VK2DO, 42 Pettit St., Yass; Southern: E. N. Arnold, VK2D3, 673 Forrest Hill Ave., Albury.

VICTORIA

Secretary—A. B. D. Evans, VK3VQ, Box 2611W, G.P.O., Melbourne. Telephone: FJ 6997.

Meeting Night—First Wednesday of each month at the Radio School, Melbourne Technical College.

Zone Correspondents—North Western: B. R. Mann, VK3BM, Quambatook; Western: C. C. Waring, VK3YW, 12 Skene St., Stawell; South Western: R. Secrine, VK3BI, 17a Raglan Street, North, Ballarat; North Eastern: D. Tacey, VK3DW, 18 Harold St., Shepparton; Far North-Western Zone: Harry Dobbin, VK3MF, 42 Walnut Ave., Mildura; Eastern Zone: J. D. Chilver, VK3D3, 20 Smith St., Leongatha.

FEDERAL

THE CONVENTION

The Eighteenth Annual Federal Convention of the Wireless Institute of Australia was opened at the rooms of the Victorian Division at 2.15 p.m. on Friday, 20th March, 1948. Being the third Convention held since the cessation of hostilities in 1945, it was again represented by delegates from all Divisions.

The delegates present were: New South Wales—Mr. J. M. Moyle, VK3JU; Victoria—Mr. H. N. Stevens, VK3AO; Queensland—Mr. F. M. Nolan, VK3PN; South Australia—Mr. G. L. Linn, VK6AW, as well as several delegates from the VK6WD, Western Australia—Mr. A. G. Moss, VK6GM; Tasmania—Mr. J. Brown, VK7BJ. Also in attendance were the Federal Vice-President, Mr. A. G. Glover, VK3AM; Federal Secretary, Mr. W. T. S. Mitchell, VK3UM; Federal Treasurer, Mr. P. Evans, VK3OZ; Federal Publicity Officer, Mr. G. W. Manning, VK3XZ.

Owing to illness the Federal President, Mr. W. R. Gronow, VK3WG, was unable to attend the Convention. He was pleased to say that he is now well on the way to recovery and ere long will be one of hamdon's best gollers.

Mr. Evans, on behalf of Federal Executive, welcomed the visitors and was fully supported by Mr. H. N. Stevens, Victoria. Following on the reply made on behalf of the delegates by Mr. J. M. Moyle, nominations were called for the election of a chairman, to which Mr. A. G. Glover was appointed.

The first business of the Convention was to reach agreement on the new form of the Federal Constitution and it was resolved that the 1947 Federal Constitution of the Wireless Institute of Australia be known as "The Wireless Institute of Australia 1939 Constitution as revised in 1947."

Following discussion on the Federal Constitution it was found that a slight re-drafting of three sections of the Constitution was necessary and submitted with the minutes of the Convention to all Divisions for ratification.

Under the new Constitution will be made available for the perusal of any financial member upon application to his Divisional Secretary.

With regard to the drafting of a Uniform Divisional Constitution, the chairman gave an outline of the progress to date.

The Convention adopted the principle now in use in the New South Wales Division for use in all Divisions in relation to Radio Clubs.

As the time was not yet opportune for the appointment of a Federal Secretariat this matter was left in abeyance.

A report was made by Federal Executive giving details of the plan at present under discussion for the formation of a Federal Radio Club. This will collect and collate all available data regarding

WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official broadcast.

VK2W1—Sundays, 1100 hours EST, 7190 Kc. and 2000 hours EST 504 Mc. No frequency checks are available from VK2W1.

VK3W1—Sundays, 1130 hours EST 7196 Kc. Spot frequencies every fourth Tuesday, between 2000 and 2200 hours EST. Kc. Individual frequency checks of Amateur Stations given when VK3W1 is on the air.

VK4W1—Sundays, 0900 hours EST simultaneously on 7109 Kc., 14342 Kc. and 52,004 Mc. Frequency checks are given two nights weekly, and the hours are announced during the Sunday broadcasts.

VK5W1—Sundays, 1000 hours SAST on 7168 Kc. Frequency checks are given by VK5WD on Friday evenings on the 7 and 14 Mc. bands.

From VK6WH—Sundays, 0900 hours WAST on 7168 Kc. No frequency checks available.

VK7W1—Second and Fourth Sundays at 1030 hours EST on 7174 Kc. No frequency checks are available.

SILENT KEYS

PHIL BREWER, ex-VK5JA

We regret to chronicle the passing, during April, of an old friend and colleague in Phil Brewer, ex-VK5JA. One of the first contacts the air about 1927 was a power in the DX realms up to 1935. His operating ability was second to none, and he put VK5 in the forefront in many a Psk Contest. Of a quiet and retiring disposition, but possessing an intense sense of humor, Phil endeavored to live up to the motto of "Keep down his natural reserve, and was not devoid of the worry, and sickness that was his incomparable lot since 1942. Phil did not leave his home after the second World War. To his sorrowing wife and young son goes the condolences and sympathy of all members of the Amateur Radio who deeply mourn his passing.

existing emergency networks and evolve a workable emergency scheme for a National Amateur Network.

The Convention also felt that there was a need for the establishment of an A.O.C.P., correspondence course and in this connection have invited the Federal Executive to start implementation of such a course.

Considerable time was spent in discussion of the P.M.G. regulations, decided on certain changes, notably the payment of license fees in their own particular State and the inclusion of the words "by receivers of modern design" between the words "programmes" and "the Amateur" in Regulation 107.

That Federal Executive continue its endeavours with the P.M.G.'s Department with a view to ensuring that amateur station licenses receive the same consideration as broadcast listeners in regard to man-made interference and request the introduction of legislation to prohibit interference.

All members are invited to log all types of transmissions from commercials and others not supposed to be in the amateur bands, and logs are to be forwarded, via their State Councilors, to Federal Executive.

The Convention confirmed the motion that W.I.A. traffic should be kept clear of the air at all times and on the frequencies in use from time to time and as published in "Amateur Radio." In order to ensure that this does not interfere with what Federal Executive evolve a plan for all official W.I.A. stations to operate on a frequency of 7196 Kc. on Sundays and all members are requested to keep that channel clear from 9 a.m. to noon E.A.S.T. After official broadcasts have been made

QUEENSLAND

Secretary—G. G. Augustesen, Box 638J, G.P.O. Brisbane.

Meeting Night—Last Friday of each month at the State Service Building, Elizabeth St., City.

Divisional Sub-Editor—J. H. McGregor, VK4ZU, "Maquette," Elidon Rd., Windsor.

SOUTH AUSTRALIA

Secretary—E. A. Barbier, VK5MD, Box 1234K, G.P.O. Adelaide.

Meeting Night—Second Tuesday of each month at the Balliers' Exchange, St. Adelaide.

Divisional Sub-Editor—W. W. Parsons, VK5PS, 483 Esplanade, Henley Beach.

WESTERN AUSTRALIA

Secretary—W. E. Caxon, VK6AG, 7 Howard St., Perth.

Meeting Night—Second Monday in each month at the Balliers' Exchange, St. George's Terrace, Perth.

Divisional Sub-Editor—R. W. S. Hugo, VK6KW, 8 View St., Subiaco.

TASMANIA

Secretary—J. Brown, VK7BJ, 12 Thirza St., Newtown, Telephone: W 1325.

Meeting Night—First Wednesday of each month at the Photographic Society's Rooms, 163 Liverpool St., Hobart.

Divisional Sub-Editor—T. Connor, VK7CT, 385 Elizabeth St., Hobart.

Northern Correspondent—C. P. Wright, VK7LZ, 3 Knight St., Launceston.

The W.I.A. Station will change to a frequency to be determined for intra-state working and thereby permit the next Divisional broadcast to commence. Your annual cooperation desired in this connection as most of you chaps will realize by the amount of interference that appears with each official broadcast.

The illegal practice of breaking-in on a QSO for the purpose of interjecting facetious remarks and the abuse of the v.f.c. was strongly condemned. In view of the recent Editorial in "Amateur Radio" on this subject, no further comment was necessary. It is considered the boulder duty of anyone hearing instances of this nature to contact the Amateur Council at the first point possible of wrongs of such operation, also that he is likely to incur a penalty from the authorities. The above practices are not to be confused with the permissible procedure adopted by stations notifying their intention to join a network or group of stations who habitually work together; that is, station operator advised on conditions and after a short delay, "this is VK—standing by for VK—", and immediately cuts carrier until invited to transmit.

It was also considered that the P.M.G.'s Department be requested to allocate VK8 calls to Northern Territory stations and VK1 to Australian Capital Territory or other special stations.

Included in the agenda items was the hardy annual that "a gentleman's agreement" be made to observe portions of each band for c.w. operation. A plan was submitted and all delegates were asked to bring the matter before their Council for consideration.

It was felt that after listening to the various types of phonetic alphabets in use from phone stations that some uniformity be established and to this end it was recommended that the one published in the P.M.G.'s Handbook should be encouraged. In order that an international standard should be established, the Federal Executive is communicating with the International Amateur Radio Union to this end.

When the annual contests came up for discussion it was decided that the DX Contest be conducted in October in each year alternatively by the N.Z.A.R.T. and the Federal Executive. The 1948 contest will be conducted by the Federal Executive. It is thought that as their Majesties will be touring Australia and New Zealand the Contest will be a most successful one. The Federal Executive could be suitably known as the "Royal Commemorative Contest." No doubt there will be certain legislation be made in connection with the use of the word "Royal."

Contests, in the future, shall not exceed in duration 48 hours at any one period and the total speaking time be limited to 24 hours consecutive operating.

of a Federal nature shall be conducted by Federal Executive under the direction of Federal Council. Federal Council have power to approve or otherwise of any Division conducting special contests.

As the concluding item on the agenda, Council decided that the next Federal Convention shall be held in Melbourne during Easter 1949.

During the course of the agenda business the Chairman requested submission of items for consideration as general business; twenty-two items were submitted, fourteen of which were carried. The items of general business included: ro-drast sections 49 and 55 of the Federal Constitution; delegates instructed by their Council to vote a certain way on agenda items shall hand in a note to the Federal Secretary on which is stated their method of voting in order that the section of the Federal Constitution on automatic ratification may be implemented; broadcasts of Federal matters from Divisional stations shall be made only on the authority of Federal Executive or the Federal Council of the Division. In this regard it was recommended from the Federal Council that any Division receiving prior information should without delay forward the matter to the Federal Executive for immediate action. The Federal Council continue its enquiry in connection with the name "Royal" for the Wireless Institute of Australia. A special per-capita levy of 6d. per member be made on Divisions to establish a sinking fund for Federal Executive administrative obligations. The P.M.G.'s Department be approached with a view to obtaining a mobile license as distinct from a portable license. That in future contests rules should provide that the logs of VK contests be sent to appropriate State Divisional Councils so that Federal Executive may be advised as to their being financial or otherwise. That an approach be made to I.A.R.U. with a view to evolving an international numbering system for DX contests, pointing out the advantages of the VK system. That W.I.A. provide funds for a perpetual trophy for the Remembrance Day Contest, and that, as soon as possible, F.E. forward suggestions to the Divisions as to the form that the trophy should take. In this regard Federal Executive would appreciate some constructive suggestions to enable them to arrive at a suitable decision. The distribution of certificates, awards, etc., be made by Divisional Federal Councils at monthly Divisional meetings. That in the enforcement of membership certificates of the W.I.A. the appropriate membership grade shall be indicated. In considering the uniform Divisional Constitution

DX C.C. LISTING

	PHONE	
	Nil	
	C.W.	
VK3CN	108	(3)
VK2EO	101	(7)
	OPEN	
VK2DI	110	(2)
VK2BZ	109	(5)
VK3MO	103	(6)
VK3BG	100	(6)

These further applications are in hand awaiting checking, from VK3RX, VK2ACX and VK4HL. Certificates are in the course of preparation for those listed above. Figures in parentheses indicate the membership number to the DX C.C.

consideration be given to the inclusion of provisions to permit for the setting up of W.I.A. sub-branches under the auspices of the respective Divisions and based on the present zone boundaries. The Federal Executive to draw up a budget of anticipated expenditure for the Convention and send to the various Divisions, three months before the Convention meets, requesting the pro-rata amount indicated to be remitted.

All items herein are subject to the ratification of the Divisions.

The Convention was relieved by the kindness of the Victorian Division in entertaining the visiting delegates and Federal Executive at a dinner and suitable evening entertainment for which the thanks of all those present is hereby extended.

AMENDMENTS TO CALL SIGNS

- New Issues—
 VK3AGW—A. E. Hay, 1541 Pacific Highway, Wahroonga, N.S.W.
 2ALZ—V. J. Nugent, 47 Bayview St., Boxley.
 2QZ—C. Bowler, 25 Castle St., Randwick (station S.S. Iron Baron).
 2IUN—N. G. Hansen, University Hotel, Broadway, Sydney, N.S.W.
 2XW—W. C. Church, 47 Russell St., Vauluse.
 VK3AGU—H. Chapman, portable of VK3GU.
 3IUV—R. M. Davis, Birdwood Ave., Dandenong.
 3GHN—G. R. Howard, 52 Esplanade, Brighton Beach, Victoria.
 3QQ—F. R. Borchert, 4 Chambers St., Footscray.
 3IB—F. F. Coy, 17 Thames St., Northcote.
 3RA—R. C. Greig, Ivey's Bay Rd., Mount Eliza.
 3TB—G. C. Morrison, "Fernside", Yinnar, Vic.
 3IVU—N. Serpell, 12 Royal Cres., Camberwell.

- VK4GB—G. Barr, Ensworth St., Wynnum Central, Qld.
 VK5CF—W. G. Wilson, 67 Brown St., West Croydon, S.A.
 3PL—J. R. White, 30 Amherst Ave., North Norwood, S.A.
 VK6EB—E. L. Broadshaw, 57 Government Rd., Morley Park, W.A.
 6FA—R. F. Ayer, 815 Wellington St., Perth.
Alterations—
 VK2AP (in lieu of VK3APR)—A. P. Reynolds, 11 March St., Richmond, N.S.W.
 2EZ—J. R. Moyle, 87 Gould St., Bondi Beach.
 2HF—A. A. Purze, 88 Bocerott Rd., Bocerott.
 2HG—J. F. Mackel, 35 Longueville Rd., Lane Cove, N.S.W.
 2LE—F. H. S. Lee, Striell Point Rd., Deland Bay, N.S.W.
 2IO—C. S. Higgins, 27 Monash St., Wentworthville, N.S.W.
 2MI—A. J. T. Crisp, 20 Carrington St., Boxley.
 3OU (in lieu of VK4LP)—A. S. Littlejohn, 158 James St., Leichhardt, N.S.W.
 2OX (in lieu of VK6EV)—J. J. Mount, 48 Milling St., Gladesville, N.S.W.
 2XJ—F. M. Broome, 102 Griffith Ave., Bankstown, N.S.W.
 VK3AOF—V. C. Forbes, 33 St. Phillips St., Abbotsford, Victoria.
 3ALL (in lieu of 7LL)—Dr. K. M. Kelly, Infectious Diseases Hospital, Fairfield, Vic.
 3ID—L. J. Meadows, 30 Stephen St., Hamilton.
 3IG—E. J. Howard, 11 Greenwood St., Ballarat.
 3KG—E. L. Green, 52 Severn St., North Balwyn.
 3QZ—J. G. Colley, 18 Chemlani Cres., Traralgon.
 3TY—W. H. Morden, Rupanyup, Victoria.
 3XP—L. R. McIntyre, 62 Chestnery St., West Melbourne, Victoria.
 3ZF—G. G. Coventry, 111 Enmaline St., Northcote, Victoria.
 3ZY—W. F. Burgess, 7 Charwood Cres., St. Kilda, Victoria.
 VK4CR (in lieu of VK2ACD)—G. M. Carter, 56 Crescent Rd., Gympie, Qld.
 4DB—D. S. Brown, Mirrabooka Rd., Ashgrove.
 4EA—E. R. Ashlin, Bilinga, South Coast, Qld.
 4IW—M. J. Wratton, Clem St., Brassall, Ipswich, Qld.
 48C—S. R. Grantham, 74 Herries St., Toowoomba, Qld.
 4XY—L. J. McGarry, c/o Mrs. Crawford, Swan Rd., Taringa, Qld.
 4YS (in lieu of VK2YS)—S. P. Sorenson, c/o Station 4CA, Cairns, Qld.
 4ZZ—J. L. Kane, Dilgall St., Toowoomba, Qld.

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 61A—V. C. Allen, Cape St. Turst Hill, W.A.
 VK7NL—N. J. Lippecombe, 177 Invermay Rd., Launceston, Tas.
 VK9GW—A. A. Warner, Paga Hill, Port Moresby, T.P.N.G.
Cancellations:—
 VK3TM—A. H. B. Breen (deceased).
 VK3LO—H. E. Loefer.

HAMS WHO LOST THEIR LIVES DUE TO SERVICE

VK2AJB—G. C. Churle R.A.A.F.
 VK2BQ—F. Easton R.A.A.F.
 VK2VJ—C. D. Roberts A.M.F.
 VK2VY—V. J. J. A.M.F.
 VK2YR—W. Abbott R.A.A.F.
 VK2QJ—J. D. Morris A.M.F.
 VK2HN—J. McCandish A.M.F.
 VK2IE—E. Morris A.M.F.
 VK2NG—N. E. Gunter M.N.
 VK2OR—M. D. Orr R.A.A.F.
 VK2OW—L. T. Teuton R.A.A.F.
 VK3PL—J. L. Colthup R.A.A.F.
 VK3PV—R. P. Veall A.M.F.
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 VK4IR—R. A. B. A.M.F.
 VK4AF—C. A. Ives R.A.A.F.
 VK5BW—G. Phillips A.M.F.
 VK5IE and VK5EM—Mann R.A.N.
 VK5GH—A. H. G. Hippen R.A.N.
 VK5JG—J. E. Goddard R.A.A.F.
 VK6KS—K. Anderson A.M.F.

The above names and details have been received by Federal Executive. The forwarding of any name not included on the above list or errors therein should communicate with F.E. at the earliest.

FEDERAL (VKSJ) BUREAU

RAY JONES (VK3RU), MANAGER

Jim Austin (VK6SA) is expecting to visit Melbourne for a couple of days during the middle of May. Previous to arriving in Melbourne Jim will have some time to devote to the club. A nice card is that of RAEM/MM located about S.S. "George Sedor" presently located in Frans Joseph land. Among the "modest" claims of the operator is that he was a member of the United North Pole Expedition 1937-38, and "RAEM" was the call of S.S. "Chelakia" which was smashed by ice in the polar sea in 1934. I was there as Chief Operator and since then RAEM is my personal amateur call."

A Christmas and New Year greeting belatedly received is that from J. A. of CRVYA. Val is one of those rare ones who QSLs 100 per cent.

The following is repeated for the benefit of QSL Managers and others who seldom read this column. "D. A. Leslie, ex-VK2UH, is no longer QSL Manager for Fiji and is now back in New Zealand." The QSL address for Fiji is VR6SA, Mr. S. H. Maxine, Victoria Parade, Fiji. The continued use of Mr. Leslie's old address is proving embarrassing and costly to Mr. Leslie, and is delaying cards unnecessarily.

Ex-VK7CM now signs GSBDU, and VR6AA is now holidaying in the north island of New Zealand with ZL2PFR until the end of March.

An echo of a par some months ago regarding non-receipt of QSLs by Jimmy Dooley, then XJ3UR, comes from Leith Cotton (VK5LG) who, incidentally, has just met W.A.G. Leith claims Jimmy must have received them and concludes "I know a lot of Hams are too dumb, lazy or lousy to collect QSLs from Bureau for long periods, and then, when answering them, make the card. 'Pae QSL' to cover their own remissness." You have seen hit the nail on the head Leith.

A fire broke out on the S.S. "Wairaro" whilst berthed at Vancouver. Whilst no details have yet been received, it is understood that only the prompt action of one of the members of the crew averted a major disaster. The hoped Jimmy QSLB/P and his 50 Mc. and other gear escaped damage.

Was a pleasure to hear again from Leon Paul (VK3XQ ex-VK3RF) who, whilst in the States, his club has not suffered during his absence from the air.

Each time notes get scarce up pops Eric Trebilcock BE8B1/5 of Wynyard, Tasmania, with an interesting budget of news. Eric is still confined to the ranks of listeners has the receiving end of the DX game well taped, having logged 172 countries and if working 30 hours a week, he can't prevent it, hopes to win the Receiving Section of

the 1948 BERU Contest. Eric supplies the following rare DX QTHs:—
 ZS9D—Box 14, Franciton, Bechuanaland.
 WO0ZW—U.S. Naval Station, Pago Pago, U.S. Samoa.
 CZ1A—Beirut, Syria (QSL via A.R.R.L.)
 A21A—Monaco (QSL via A.R.L. Milan).
 VS9ET—Oman (QSL via R.S.G.B.).
 VS9QT—Oman (QSL Signal R.A.F. Station, Sharjah, R. Forces in Inv.)
 MC1A (7MC)—Benghazi, Cyrenica (QSL via R.S.G.B.).
 VP2B—Labore, Sakistan (via R.S.G.B. or GHRS).
 AP02A—A.P.O. 863, care P.M., New York City.

Thanks for your ever-welcome items Eric, and give away those long hours of duty for, as you say, "Ben takes the lion's share."
 W6-SWL, Dineen, Russell, of 1735 S.O. Marshall Ave., Dallas 10, Texas, U.S.A., makes an unusual request. He is desirous of receiving QSL cards from just West Coast Listeners in other countries. We wish him well.

NEW SOUTH WALES

The March monthly meeting was held on Thursday, 25th, with John Moyle (VK2JU) in the chair, and the business was to consider the Federal Convention agenda and to advise the Division's delegate as to his voting at the Convention. The fact that all 51 items were dealt with in one evening, instead of two or three meetings, as in some previous years, was undoubtedly due to John's able chairmanship, and to the spirit of the members present. The tendency to start petty arguments on minor and irrelevant points was completely absent, and no doubt John left for Melbourne on the following day with a clear idea of members' views on the matters before the Convention.

John Moyle was the N.S.W. delegate this year, as Jim Corbin, who has been our representative for several years past, was not able to undertake the task this year. Up until the time of the meeting, no one had volunteered for the position of observer, and an appeal was made to members to take a more active part in the running of the Division. As Peter Adams pointed out, the work involved in keeping the Division on an even keel has, for many years, fallen on the shoulders of a few enthusiastic members who have done yeoman service, but who are growing older and, perhaps, a little tired; it is the hope of those men that younger Hams will come forward to take over the executive positions—President, Secretary, Treasurer, and Councilman. The position of Convention Delegate was the subject of remarks by both Jim Corbin and John Moyle:—"In the past, the job has been taken on by any

member who happened to be in Melbourne at Easter, and it is felt that this is not the best arrangement; ideally, the position should be filled by someone who is prepared to act as a Councilor for the following year."

As a parting shot your scribe is again appealing for articles, technical and otherwise, for publication in "Amateur Radio." To date, the response has been nil.

SOUTH COAST AND TABLELANDS ZONE
 SPI was heard on 7 Mc. c.w. Rig consists of 6V6 crystal, 807s in parallel with 60 watts input, receiver is a No. 11. Modulator is under way, using antenna left by 2YS, 34U is QRL on 50 Mc. Has a portable 2P1 and 2TA on that band using a rotary beam. Heard working 2CM cross band 8.5/7 Mc. 2JQ (the Voice of Crookwell) heard often with good solid phone. Daughter Betty also interested in Ham Radio; believed to be delving into the technical side of things with A.O.C.P. as No. 1 priority. Monty was heard working VK1AA. EARE has been holidaying in City of Plains and was heard from 2NS and 2IE. Has hopes of a.c. to home QTH in three years. Class B mod. of type 19 with 2 watts input, and Type A Mark 3 carries burden meanwhile. 2AL3 is on most evenings. Has two complete stations; 6V6 to 6V6, input 6 watts, ARS receiver. Big rig uses 60 watts to 869. Has an AR7 and Bendix frequency meter also.

Had pleasure of staying one night with 2AIR. Cecil now in West Wyalong and runs two stage rig, 6V6 to p.p. 807s, mod. 807s. ARS, receiver ARS. Nice lot of DX worked and slunk shows plenty of the hard-to-work by fact of the cards displayed, 2AFV also active using ATR13 with S13 final, modulated by S13A. Receiver is 7 tube super; Windom antenna and power generated by petrol driven engine. Is mostly QRL with brother Les, 7LT.

2WR is amongst the 7 Mc. boys using a No. 11, but believe AT5 ready for something or other. In pre-war Ham interested mainly in c.w. 2VS at present QRL with h.c.l. work at Mudgee, relieving. Has gear operating on 50 and 144 Mc. Next year will be Young where 2TA and 2TC are busy on 50 Mc., but little news regarding results to hand. 2P3 has occasionally on low frequencies but seems to keep to the quietness. 50 Mc. Like to hear more about you Ross. Wollongong possesses, I believe, an Amateur Radio Club and already four chapters are over the worries of A.O.C.P. 2MT is active and 2WV I believe is under way. 20Y heard for short period one night. Do believe you are likely to have some QRM from a new Ham very shortly. That's all chaps. Any news of your doing will be considerably.

NORTH COAST AND TABLELANDS

2OF building 3.5 Mc. rig for the winter, 807 p.p. 2FX home for Easter was heard on 7 Mc., gremlin took over rig during his absence. 2SH active

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mostly on 7 Mc., getting some nice c.w. DX and fixing rig for 28 Mc. 242Y running signals with 23W and should be on 50 Mc. shortly. 23H would be long now, also interested in 50 Mc. 23W is another prospect for 50 Mc. at moment building a hand net receiver. 242P will be active soon with mighty QRP job, has worked all VK, ZL, and VR2 with 11 watts.

23K is building new job with 813 final, heard testing on 7 Mc. and still troubled with line noise. 21N also with new outfit, on phone shortly. 22X at present in VR6 and absence noted on 7 Mc. 28Y building rotary for 28 Mc. 241 and 242 both on 8.5 Mc., the latter troubled with power line QRM, location power station (a.c. type). 22P occasional flutters on 7 Mc. 247S has new 40 foot "A" frame mast, 4M—813 on 14 Mc. Notes to 2PA at Port Macquarie please!

NEWCASTLE AND DISTRICT

28Z with two way work on 166 with Sydney and Singleton, congrats Dave, in going. 24HA

has a fine W.A.C. on 12 Mc. in 50 minutes and 161 countries confirmed post war, they are in for a DX C.C. certificate. 242Z on 28 Mc. W.A.C. The above two are putting the coal city on the map. 2TE has over 80 countries and looking for more. 242X and 242P on 28 Mc. 242W snap up any DX that shows through. The boys will be forming a radio club in Newcastle shortly.

COALFIELDS AND LAKES

28K working 14 and 28 Mc., getting set up for 50 Mc. 242C, certainly rotary on 28 Mc. 28Z still battling for a 28 Mc. W.A.S. Vermont and Delaware n.d.g. 240 ML activity. 28K much the same, heard once on 28 Mc. 24T and 242J chewing on 7 Mc. What about those beams Bill! 24DT keeps an eye on 50 Mc., getting started on 166 and adding a few countries to his 87 post-war on 28 Mc. 24L, playing with 14 Mc. beams, on 28 Mc. and 14 Mc. and sometimes on 50 and 7 Mc. 20C heard on 28 Mc. and looking for elusive VK6 on 50 Mc. 28U on 50 and 166 Mc. 24MD doing nice work on 28 Mc. with fine beams. 242X on 14 Mc. 24H welcome to Gosford. 24R also known as 3000 hours Hardman. 24IO not heard recently.

WESTERN ZONE

Conditions on 3.5 Mc. improving and by middle of winter should be good. A lot of old timers heard there nightly, including 24Q, 28W, 28N, 28L, 28K, 28V, 28X, 28E and 466. 7 Mc. the 28Z band for local rag chews, heard regularly are 28S, 21I, 21E, 28V, 24W and sometimes 21Z. 14 Mc. is good for 14 Mc. if you like it the hard way, but beams include 28T, 24MB, 23G and 242Z. Also most of the Broken Hill gang. 28 Mc. is there for those that like DX the easy way. QIN ML, QRM little only and those active in the zone include after 20 years. 24PO on 14 Mc. and 21Z installed inside the house. 24I migrated to 7 Mc. 28H has receiver going, still oscillating in wrong spots. 242R makes 50 Mc. occasional and 24CP had a thrill working OT 2JR on 7 Mc., the sum total of their ham radio days or years is about 70 years.

SOUTHERN ZONE

24NQ (ex-3XQ) on air with p.p. 800s and looking for c.w. contacts on 7 Mc. 24PW with 2.1 amps into zepp feeders and 100 watts on 7 Mc. 28S is a newcomer, should be active soon. 24QE threatens to be active again, buying new gear, and using feather duster. 20J doing shack renovations and general cleaning up, recent visitors include 24GH, 34Q, 34K, 24CP and 242D. What about some news from Corvax? 242C trying to complete new house and shack. 24JA located amid town's QRM, we sympathise.

The following Wagga notes from 24TH. The iron curtain is lifted and Wagga again in news. 24ID takes modified AT5, worked VE on 7 Mc., secret is in the bent mast, we are waiting for the crash! 24H has moved on and we hope to hear him from up on Newcastle way. 24P congratulates on a new fine comm. ticket, now the grind is over hope to hear him. 24G also with a modified AT5 on 3.5, but he's not tuned there (no prize). 28W, Wagga's G.P.P. (guide, philosopher and friend), always co-ops with locals, has a nice post-war DX record too mostly on 28 Mc. 24TH in process of giving shack a new look. 24Morton 28S and 28Z would like the loan of an instruction book—any offers? The following is his solution of the XVI problem. 24F offers a call to the boys for each new country worked, hope he never works an OY. H's new £10. 24NT temporarily QRT pending installation of a h.t. transformer, busy also at the Aeradio Station. 24PM new one to Wagga, has been testing on 7 Mc., transmitter is 24Z, and receiver a Bostex RA12.

VICTORIA

Members of the Victorian Division in attendance at the March general meeting were fortunate in having the pleasure of meeting Mr. Ted McCarthy (VK1A) and Leading Telegraphist Skinner, of the Wyatt Earp which recently returned from the National Antarctic Expedition.

Mr. Ted McCarthy was called upon, after introduction, to recount some of his experiences during the expedition and the difficulties of operating on the Amateur bands from the vessel, expressed pleasure of the contacts made. Some impressions from the scientific angle, a particular reference to Isberg and icebergs, proved of intense interest to his audience.

An interesting sidelight was a preview to members of the QSL card with which Mr. McCarthy will confirm his contacts (VK5UT), which is attractively printed with the crest of the Wyatt Earp in full color and will, without doubt, be a fine reminder of this voyage of National interest.

In the President's absence, holidays over the Easter period, Mr. Harry Kinnear (VR5KK) took the chair to another fully crowded meeting and was happy to welcome and introduce other visitors also in Mr. John Moyle (VK5JU), visiting from N.S.W., and Mr. "Laka" Lucas (VK5LL), over from S.A.

Much enthusiasm has been shown at recent meetings of suggestions for the holding of more social gatherings throughout the year and the formation of a Social Activities Committee was felt to be desirable to organise such dates. Two members, Mr. L. Moncur (3LN) and Mr. R. Henderson (3ARV), were nominated and accepted for this Committee and have power to co-opt.

Mr. Glover, reporting on T.A.C. activities, outlined the progress of the new installations to the Laboratory at the Institute House and also put forward the invitation for willing helpers to further assist in completion of this project. It was announced by Mr. Glover also that a plan for two sets of transmitting apparatus was planned for covering other bands as well as the present frequency range.

The QSL officer has expressed his appreciation of the co-operation of members in collating their cards before handing in for disposal as this facilitates the handling and distribution of the many hundreds received.

T.A.C. MEETING NIGHTS

It is noted that the Technical Advisory Committee of the Victorian Division of the W.I.A. hold meetings at the Institute Rooms at 191 Queen Street, Melbourne, on the following dates:

All members and visitors are cordially invited and welcome to attend these meetings at which many technical discussions and demonstrations take place. Meeting nights are as follows:—

- 1st Tuesday: Practical Work.
- 2nd Wednesday: V.H.F. Group.
- 3rd Tuesday: T.A.C. General Meeting.
- 4th Tuesday: Practical Work.
- 4th Wednesday: Receiver Group.
- 5th Tuesday: Practical Work.

VK1A will announce the program for these monthly meetings in forthcoming broadcasts.

T.A.C. ACTIVITIES

V.H.F. Group.—Reports on the field day, held on the 7th March, were presented and discussed. The main business of the meeting, a discussion on V.H.F. Antennas was the procedure, a wide range of particular interest were problems connected with maintaining the directiveness of a directive antenna over the whole of the frequency range of the 60 mc. band.

T.A.C. General Meeting.—Among other business dealt with was the approval for the purchase of the following books for addition to the lending library:

- Frequency Modulation Engineering—Tibbe.
- Radio Tube Valve Museum—Brans.

The Librarian receives regularly radio periodicals published in foreign languages. Much of the information in these journals would be suitable for re-publication in "Amateur Radio." Those Amateurs who have sufficient knowledge of Dutch, Spanish, Italian or other languages would be prepared to bring abstracts of technical or general articles should, if available for this work, contact T.A.C.

Practical work at present being carried out by T.A.C. includes the construction of a Laboratory Workbench with facilities for a wide range of tests. Members willing to assist in this work will be very welcome.

EASTERN ZONE

The Eastern Zone look-up is now on a spot frequency of 3019.2 mc. on 28 Mc. at 3000 hours, so Eastern Zone stations roll up and make it still bigger. 28WE is punching nearly on 100 watts. Bill says that now the cold weather is approaching, he is going remote control by the breeze for the coming months. 34QZ is very busy settling down in

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conceded to send to Adelaide and its suburbs a close class of business and a close class of the history of South Australia. The consequent damage to amateur shacks, equipment, airtels, etc., to say nothing of the interruptions to transport, communications and utilities has left every body feeling like a limp rag. The seafrost naturally felt the full strength of the blow, and we at the Hotel Barcoo had no electric light for three nights. I have been washed out of my shack, and believe it or not, in this year of our Lord 1948, I am attempting to write these notes beneath the feeble glimmer of a hurricane lamp.

To fill my cup of bitterness to the brim, I have just had information that Mrs. Bancroft (XXV) of 5MD is looking for my blood for writing a paragraph regarding the dirty dishes in the sink upon her return from hospital. This has cut me out of the circle, I have had to apologise, and to say publicly that I have checked up on my source of information and I find that the said paragraph was indeed a libel. I offer my sincere apologies. I find that the kitchen sink was definitely not full of dirty dishes as there was still room for a cup and saucer. Having now, I feel sure, been restored to Mrs. Bancroft's good books by my object apology, I can attempt the compilation of these notes with an easy conscience, so here goes.

The monthly general meeting for April was held at 17 Wymouth Street to a capacity gathering when Mr. W. O. Gibberd gave a most interesting and instructive lecture on "Carrier Transmission." The lecture was very well received and a vote of thanks, proposed by Dr. Ross Adey (5AD), was received with acclamation by all present, and to say the visitors were Messrs. Opie, George, Turner, R. Torrington (8TD), J. D. Nourse (2DQ), and Graham Pitts (5OF).

Ross Harris (5FL) spoke on disposal matters and Hal Austin (5AW) discussed the recent conference held in Melbourne. The meeting was then closed with everybody having spent an interesting evening.

Reg Harris (5RR), who has been handling 5WI so capably, tendered his resignation from 5WI which was accepted with regret, and in future Hal Austin (5AW) will be in charge of the W.I.A. Sunday broadcasts from his QTH at Rose Park.

Reports of the hurricane damage to airtels continue to come in and the latest list shows that 5MO, 5RX, 5RS, 5XO, 5LD, 5AJ and 5LW are a few of the Ham minus a skywire.

A Naval Frigate, the "Barcoo" was washed ashore during the aforementioned hurricane and finished up a mile or so from the QTH of 5PS. I wish to deny the rumour started by 5LW that 5PS was used as a beach for a couple of miles by an irate signalman from the "Barcoo" because he tried to talk the said signalman into selling the radio gear aboard as disposal equipment.

Noticed that Cec Basey (5BZ) was absent from the general meeting, apparently was stoking up the water boiler in preparation for a session of DX. "He rumoured that he has joined the ranks of the truck drivers on the road between Melbourne and Adelaide and is known as "Battler" Basey to his confidants of the road. With a smile on his lips and a curse in his heart, he lets nothing pass him and always gets his truck in on time.

George Ramsay (5GD) is reported on the sick list with a very heavy cold, in fact at one period complications were feared. In on the road to recovery now I hear, and probably next time he will adjust his beam in the cold chilly air he will remember this bout of sickness!

Joe McAllister's enthusiasm for the W.I.A. led him to rise at 4 a.m. on Sunday, 14th March, with the intention of visiting the local Hams at Kadina and putting on the traditional good will. Leaving at 5.15 a.m. Joe, the XYL and the harmonics had a very pleasant trip in the brisk morning, and as there was no desperate hurry, the time of arrival was set so as to hear the 5WI broadcast. The first call was to Darcy Hancock (5R2), but a notice on the back door "no milk today thanks" told its bearer to stop preparing for a session of DX. The abode of Les Wallbridge (5IX) was found and fortunately just in time to catch 6UX, plus Darcy himself and his XYL about to depart in the trusty 5WI. Joe was right royally welcomed over a cup of tea it was suggested that as there was a bit of a do over at Crystal Brook, what about all going out to see the other Hams. Having mentioned on the "5UX" receiver and not heard any VK5 signals, the party started for Crystal Brook.

The first indication of "CB" was the huge aerial mast of 3CK (one of these common broadcasting stations). Passing through the town the party came to the creek bed, near the showgrounds and found a party of Hams gathered, including Muller (5VM), C. A. Daddridge (5CD), H. Hodgson (5AP), and quite a number of unidentified personalities. What with YLs, XYLs, harmonics, and visitors it was a grand gathering, and lunch took a long time because it is hard to talk and eat too. Joe passed on all the Adelaide gossip, and made a note of all the country doings (for which I thank him). Len Muller (5VM) took a photo of the gathering with his huge camera (tripod, red cloth and all) giving quite a foreracer act with the red cloth, with the evident idea of making the gang look pleased. How successful he was we will only know if we see a photo, so what about it Len?

The next visit was to 5CK to look over the various interesting pieces of equipment installed there. Then the party went to the shack of 5VM and Len has a fine set-up, rack and panel style, but what intrigued everybody so much was a complete shower over the rig. Apparently Len was in such a hurry to get on the air that he forgot to dismantle the bathroom. Anyway it makes an extra good water cooling system (5BZ please note). The day was now drawing to a close and Joe was amazed to note how the time had flown. A little trouble with the petrol feed delayed the departure, but some soap and a little rag soon fixed it up OK. The lights of the city were sighted about 12.30 a.m. and some 21 hours had passed by in an incredible short time. Joe and his XYL, plus the harmonics, wish to thank all the folk who helped to make the day such a happy one, and they all hope that it will not be long before they all meet again. The fact that Joe set out to do a trip of 180 miles and finished up doing 260 miles speaks for itself. The benefits to the W.I.A. was enormous, as it shows the country members that he means as much to the Institute as anybody else, and Joe is to be congratulated on his foresight and enthusiasm.

A new receiver is under construction at 5BJ although if the conditions are always as bad as they were on 14th March, more than a new receiver will be wanted to pick up any VK5 signals. Stop Press—According to reliable information two or three magnetic storms in parallel were centred around Kadina that day. No wonder conditions were bad.

Have heard a rumour that Roy Cook (5AC) is due back on the air shortly. Roy is one of the old old-timers, and we all hope that the rumour is correct. Haven't seen you at the meetings lately o.m., what about it?

5FL has a new c.t.o. hooked on to his receiver and this, plus his Bendix frequency meter, enables him to hold all the trump cards when it comes to honest reports, etc. Some of the Hams take the advice well and others don't. The dots are passing rare remarks about the 5FL back wave. Personally I am neutral.

No doubt about these school teachers, everything must be so exact, or else. Heard 5BY and 5XU in contact the other night and after Dougal had given Gordon his report three times, Gordon asked him again and Dougal finished up spelling it, SEVEN. Then and then only was 5XU satisfied.

The Police Commissioner has acknowledged by letter his appreciation of the splendid assistance rendered by Amateur Radio as a means of communication during the recent bushfires in S.A. Ross Kelly (5LW) was the recipient of a letter (sent in second by the way) but Ham Radio also secured

some useful publicity, and our thanks are due to Ross and "Doc" (5MD) for their fine job.

5BQ is in the process of constructing a 144 Mc. transceiver and as his QTH is Sumterton, he will be welcomed by the northern suburban boys as a choice bit of DX.

5LR is looking for a cheap windmill tower so as to be able to lift his present 28 Mc. signal squarer higher in the air. It is doing such a good job almost on the ground that Jack is wondering just how many db. points above 89 he will get when it does rise into the air. Anybody able to give some information as to the availability of a cheap tower?

It is not often that a nickname becomes a fact but "Pop" Deane is the exception that proves the rule. The name "Pop" came from the fact that Laurence (5AD) once upon a time had a voice as low

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in which that noted film character "Popeye" the sailor man. The arrival of a harmonica (a honny bouncing boy) to the 5LD domain makes the "Pop" quite in order. Congratulations to Mr. and Mrs. Deane. By the way it was just a coincidence that "Pop" parked his car next to 5XU at the recent field day. (Sorry Gordon but it was too good to let pass.)

You all thought that I had forgotten "Doc" didn't you? Well I haven't. I believe that he is using tooth-brush handles for feeder spreaders. Take my advice and lock your bathroom doors should he visit you, and don't fall for that sales talk he will give you about that "so and so look," "such and such smile," it is only meant to get you to discard your tooth-brush in favour of a new one, thereby permitting him to "bite" you for the old one.

General opinion regarding the "Gremlin" in VKG is that whilst it is the business entirely of the VKG Council to handle the matter as they think fit, it is generally thought that a mistake has been made. "Gremlin" was doing a good job and it was better that he remained anonymous and the opinion of a few thin-skinned Hams should not be allowed to sway the VKG Council's better judgment. With the present influx of "funny" boys into Amateur Radio, something in the nature of "Gremlin" is required.

To anyone who has attended any meetings or club gatherings where amateurs get together and "rag chew" quite informally, it is becoming increasingly noticeable that the present methods existing at W.I.A. meetings are falling into dis-favour. I refer to the "introduction," "lecture," "general business," and then a few minutes for a get together before leaving for home. Whether we like it or not, the audience at a W.I.A. meeting is divided into two classes. Those who know as much about the subject as the lecturer and therefore are not interested and those who do not understand the lecturer and therefore are also not interested. The remaining few who are interested are in such a minority that they do not count. This does not hold for all lectures, now and again we get one out of the box and everyone is more than interested, but it is becoming an obvious fact that we are to hold members' interest at W.I.A. meetings we must give them more time to have an informal rag chew, more time to get together and make each others acquaintance, in short, make the meeting less like a gathering of Bachelors of Radio Engineering (5LAW please note) and more like the gatherings which take place in the average ham shack.

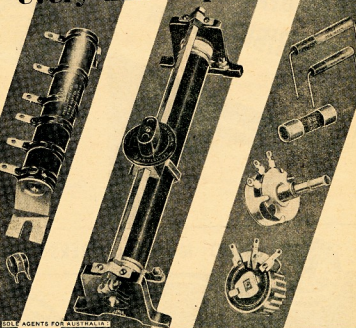
What's that you say, how can we do it? Don't ask me brother, I only write the notes! Seriously though, gang, haven't I got "something." If you don't think so tell me, I can take it, but if you do think so, then get up on your feet and tell Council members at the next general meeting. Council is only in office to carry out the wishes of members, but if you don't state your wishes on the floor of the meeting how can the Council carry them out. They're not mind readers as yet.

I had the pleasure this month of attending the inaugural meeting of the Holdfast Bay Radio Club, held at the Glencel Town Hall. When I first arrived at the Town Hall there was a steady stream of people all making for upstairs, and I followed them like a lamb, mentally telling myself that these Glencel Amateurs certainly knew how to attract a crowd. Imagine my surprise upon arriving upstairs to find that I had come upon an anti-communist meeting about to commence. Somewhat embarrassed, I crept downstairs, followed by about 700 pairs of eyes all convinced that one "commo" at least had the "wind up." I retired to the rear of the building and there came upon a chap with a "QET" in his hand also looking a bit bewildered. He introduced himself to me as 5RS and said amiably, "I say old man you're Doc Barber aren't you?" The look of homicidal mania that appeared on my face apparently staggered him, because he stepped back a few paces and said in an apologetic tone of voice, "I'm sorry old man, but you do look a bit like him" in a tone of voice that I use when handling raging lions, fierce tigers or

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H.F.P.

Asia.—There are still plenty of Asiatics around with the beam turned north particularly VS1, VS2, J, VU, X, and Y. Three of any worked were ZCQJM, Palestine; APA4, Pakistan, and VS8ET, Oman, on the South Eastern portion of the Arabian Peninsula.

North America.—We are getting more and more reliable during early and late evenings and during their recent contact many numbers were snapped during one week-end. A few Canadians were heard but none worked.

South America.—Only one contact—VY5AY, Venezuela.

Central America.—These chaps have been rare lately and the only two heard were both worked, XE1CQ, Mexico, and CO2BM, Cuba.

TASMANIA

Here in Tasmania once again with a summary of the dates for the month of May. The April meeting was well attended and the report of our Convention delegate (71LZ) was received. Apparently the aforesaid conference was almost a success. The report of chin wagging, however plenty of good work seems to have been accomplished.

Another field day is set down for the end of the month and this time is very satisfactory. It should be an F.D. affair. 7XA is scheduled to hide the transmitter. This will be the last field day for the season.

Now some personnel notes. 7YV (Bill Watson) has departed from this fair Isle for a warmer climate, to wit Weerak and was presented with a suitably inscribed pipe by the District. He was also seen to be carrying his back on the air under the call of 9YV. 7RJ has had his receiver in bits to incorporate hand switching on a couple of bands. He took a look at 7AF the other night, and was full of nice looking gear, floor racks and all the trimmings. 7SJ puts out some nice phone mainly on 7 Mc. 7RL and 7RB in the northern end of the island come in down here with plenty of punch and seem to be working plenty on 7 Mc. Heavens knows how with the mess that is on 7 Mc. these days.

7CW and 7SC are mostly on the higher frequencies, they must have patience, those guys, waiting for 50 Mc. stuff to poke its way through a hole in the job. 7CR is still trying to get his 50 Mc. licence. Our councillor has been in Hobart for a week or so and was present at our last Council meeting and general meeting. The Council meeting was held on 8 until 12 p.m. with 7RL leading the band and some of the time—must try and get him a nomination for the next parliamentary election.

The members of the 7YV club are still active in Melbourne has been put under the dog act as far as radio is concerned for the duration of his stay. What a sentence! Have heard a couple of new calls in VK7 lately, must find out the names of the owners. The Institute in VK7 is going ahead by leaps and bounds, and it is hoped to bring the membership to 100 before the end of the current year. Now what about some of those call signs that are listed, yet one never hears? Well you chaps, how about a squeak out of your transmitters now and then.

The local O.C.P. class has about a dozen starters this year and all are keen, so it looks as though the QRM in Hobart is going to be something to count with in the future—until, the more the merrier.

VK3PD, working portable in Hobart, seems to get among them in the local band. He has a few more regular c.w. men, and if they chaps don't happen to know, more keys can be bought quite cheaply excepting.

NORTHERN ZONE

It was fortunate that 71LZ should be in Hobart at the time of the Council and general meetings particularly so for our able (and willing) Secretary. The joint invitation from the annual Convention. A general outline of this Convention will be conveyed to all members in due course, possibly even before these notes are read. However, should any more information be desired by any member from this Zone, I will be only too glad to give them any more details if it is possible.

This year the advisability of having a individual get-together to discuss items of mutual interest and I think that if enough interest were shown, a number of members could meet at night—possibly once a month—could be arranged.

Mr. C. Cullinan of TEX, an old Ham and a member of the I.R.E., has now made arrangements with the other seven any subjects of interest to Amateurs is to be discussed at their meetings, this Zone will receive an invitation through our Councilor to attend such meetings. The first of these will be in the form of a letter in the form of a picture night at which four films on television

CORRESPONDENCE

Box 52, Leongatha.

Editor, "A.R."

It is with pleasure that I note that "Gremlin" is returning to "A.R.", and it is to be hoped that in the weeks and months to come he will be the delight of clearing up some of the rotten signs and operating heard on the "Ham" bands, particularly 7 Mc.

The letter of Don Knock (VK2NO) in the April issue is worthy of consideration by every Ham in VK. Every evening one can hear nothing but howling on this band, and it is a pity that the time when this was done about 10. I think if phone was prohibited on this band after 1900 hours, either by regulation or as suggested by VK2NO, a gentleman's agreement, plenty of good contacts could be made on c.w.

For those who must run chew to their neighbours on phone, and in addition put up with the family who only use 7 Mc. This band appears to be excellent for local QSOs, while the 3.5 Mc. band could also be used, as one who uses the 3.5 Mc. band regularly, I can state that 3.5 to 10 watts is sufficient for Interstate and ZL contacts. B.C.L. QRM can be cut out with efficient adjustment of the gear with low power. Here is hoping for less QRM on 7 Mc. and more use being made of 3.5 and 3.5 Mc. bands.

Before I conclude may I make one suggestion for the Mag, and that is that it be of a smaller size with more pages. The same goes as "QST".

—W. R. JARDINE, VK3PR.

XZZDA IS NOW G3DDN

15 Ryensbury Ave., Lower Mitcham, S.A.

The majority of VK Amateurs who were active on 28 Mc. during 1946/7 would, I think, have made contact with Basil Tait, VK3DA. He returned to England some time ago, and in a letter received from him he advises me that he has been demobbed from the R.A.F. and is now in the U.S.A. He is 35 years of age, his time being on c.w. only on frequencies of 14,029, 14,040, 14,080, 28,040, 28,080 and 28,160 Mc. He is very anxious to make contact with some of his VK friends and would like me to give all possible publicity to the above.

—I. THOMAS, VK5IT.

are to be screened. Unfortunately, time in this instance is too short for us to advise all members. This again reminds us of the benefits derived from meetings.

My knowledge of the individual signs are practically all owed to my visit to Hobart. However I have heard 7RK on the air using his new Franklin v.l.o. and it certainly sounds as though Ray has produced the goods. Also saw 7BQ in the vapours today so I'll have to make a call on Len and see what's coming up. 7GD was lucky enough to snag VK1AA while Tel was at Macquarie Island. He was 2800 Tel and was given me the location. I went to the door of the shack and waved to him. I'm afraid this concludes the dogs for this month, however if any member not mentioned will advise me so that I might be able to have a bottle in the cupboard, I will definitely arrange a personal contact so that said member may receive full publicity in due course.

TEMPLATE FOR METER AND SOCKET HOLES

A handy template for setting up a circle cutter is suggested. Each time a hole is cut in prestwood or metal for mounting a large diameter part, such as a socket, meter or transformer, the circle removed from the material should be labelled and filed for future reference. A collection of metal and composition circles is thus easily obtained, from which one corresponding to the part to be mounted may be selected. In order to adjust the radius of the circle cutter, the circle is then slipped on the drill point of the cutter, and the tool is fitted to the edge of the circle and set. In this way, the time usually spent in setting up temporarily, and cutting trial holes is saved.—QST, June, 1938.

"GREMLIN"

Letters in reference to "Gremlin" expressing their desire for his continuance have been received from W. Burford (VK3HJ), H. H. Hatfield, Coulter (VK5JD), J. G. Halyday (VK4HZ), W. H. Wilson (VK2VW), F. H. Doherty (VK4XC), D. B. Knock (VK2NO), B. Ferguson (VK3FV).

THE MAGAZINE

P.O. Box 127, Geraldton, W.A.

Editor, "A.R."

Because I feel strongly about things I find myself, every now and again, sticking my neck out. I don't like to stick my neck out, but I have to.

First of all, the material and make-up of our Mag. Mostly F.B.—but inclined to be too abstract at times. Articles about "making over" disposals of equipment and about new developments, practical designs of antennas, etc., are just what the doctor ordered. Those who want the pages of maths, can go subscribe to the Proc. or I.R.E. A.W.A. Technical Review, and as one—they'll get more than they bargain for there!

There is nothing wrong about a man having radio for a hobby and for a living—but he should know where the borderline exists and endeavour to use Amateur Radio for learning about Amateur Radio—not his job as a technician. Otherwise he isish towards those for whom radio is only a hobby.

Was it a printer's error or did 3RJ actually think that he would put a transmitter on 50 Mc. (ill there's some c.w. to work)? There should be c.w. (and m.c.w.) on 50—but to make a statement like that in print is to reveal the sort of old-timer's mentality that gremlins are made of. It is a picture of some ferocious old bigot who even talks to his wife and kids (if any) in dits and dahs. Let's have more tolerance from both phone and c.w. men, particularly those who have just started to earn their living at P.M.G. keys and can't forget it even when pursuing their (and our) hobby. There's no need for some of these pre-1930 and pre-1925 blokes to imagine themselves a sort of aristocracy of handmen, immune from the follies (mostly phone follies, of course) of youth.

Now re "Gremlin". This is a case of a fellow winding his poison pen that I'm sure he never gets on the air. Bernard Shaw (or someone) once said, "Those who never make mistakes never make anything." "Gremlin" could be said to be on the air for fear he made some "blue" such as those he writes about in others. However, my main theme when this fellow comes in is not to dislike his writing—many of them are really cracker—but his anonymity. That's not cricket—nor Ham Radio. We don't mind being criticised provided we know who's doing the criticising.

—R. H. ATKINSON (VK6WZ)

HARMONIC EMISSIONS

Wireless Branch, Treasury Gardens, Melbourne, C.S.

Secretary, Vic. Div. W.I.A.

The Victorian Amateur Advisory Committee is concerned at the number of harmonic emissions from Victorian Amateur stations which are being heard on the 14 and 28 Mc. bands in the metropolitan area. It has been suggested that the Institute might be good enough to arrange announcement in appropriate terms during its weekly broadcast to ask members through station VK3VW.

Such action would serve to remind Amateurs of their obligations regarding harmonic emissions and might do much to assist conditions for other licensees in Melbourne.

It would be greatly appreciated if you would arrange to take action as indicated and also perhaps to include a paragraph concerning this evil in the next issue of "Amateur Radio".

—L. PEARSON, Chairman.

Vic. Amateur Advisory Com.

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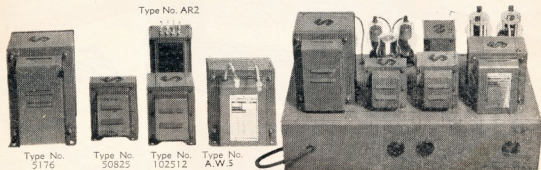
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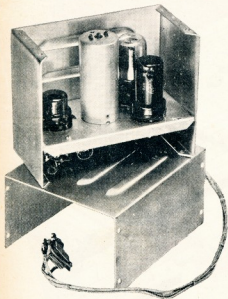
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